

WHAT IS CLAIMED IS:

1                    1.        A process for producing a magnetic anastomotic component suitable  
2 for implantation in a patient's body, the process comprising steps of:  
3                    forming an anastomotic component having a desired configuration from a  
4 material capable of producing a magnetic field, the anastomotic component having an exterior  
5 surface;  
6                    processing the anastomotic component to make the exterior surface suitable  
7 for receiving a layer of biocompatible material; and  
8                    providing the exterior surface of the anastomotic component with a layer of  
9 biocompatible material.

1                    2.        The process of claim 1 wherein the processing step is performed to  
2 make the exterior surface of the component substantially smooth.

1                    3.        The process of claim 2 wherein the processing step comprises  
2 removing unwanted material from the exterior surface of the component by abrasive  
3 microblasting.

1                    4 .        The process of claim 3 wherein the processing step comprises placing  
2 the component in a mechanically abrasive environment.

1                    5 .        The process of claim 2 wherein the processing step comprises grinding  
2 the exterior surface of the component.

1                    6.        The process of claim 2 wherein the processing step comprises acid  
2 etching the exterior surface of the component.

1                    7.        The process of claim 1 wherein the providing step comprises disposing  
2 a layer of biocompatible material over another layer of material that covers the exterior  
3 surface of the anastomotic component.

1                    8.        The process of claim 7 wherein the layer of biocompatible material is  
2 Gold and the other layer of material is Gold or Nickel.

1                    9.        The process of claim 1, further comprising electropolishing the  
2 component after placing a final layer of material thereon.

1                   10.     The process of claim 1 wherein the component has an overall thickness  
2     within the range of from about 0.010 to about 0.030 inch, and the biocompatible layer has a  
3     thickness within the range of from about 0.0002 to about 0.0020 inch.

1                   11.     The process of claim 1 wherein the component is formed from NeoFeB  
2     and a layer of biocompatible material is placed over the NeoFeB.

1                   12.     The process of claim 1 wherein a portion of the exterior surface is  
2     formed with means for enhancing engagement between the component and the tissue of a  
3     vessel.

1                   13.     The process of claim 1 wherein the forming step forms a component  
2     comprised entirely of a material capable of producing a magnetic field.

1                   14.     The process of claim 1 wherein the forming step forms a component  
2     having a first configuration and the processing step changes the component to a second  
3     configuration having structural differences from the first configuration.

1                   15.     The process of claim 1 wherein the providing step comprises plating  
2     the exterior surface of the component.

1                   16.     The process of claim 15 wherein the exterior surface of the component  
2     is plated more than once.

1                   17.     The process of claim 1 wherein further comprising assembling the  
2     anastomotic component is assembled with a delivery device for packaging and sterilization.

1                   18.     The process of claim 1 wherein the anastomotic component is  
2     packaged and sterilized after the providing step.

1                   19.     The process of claim 18 wherein the component is magnetized either  
2     before or after being packaged and sterilized.

1                   20.     A process for producing a magnetic anastomotic component suitable  
2     for implantation in a patient's body, the process comprising steps of:  
3                   forming an anastomotic component having a desired configuration from a

4 material capable of producing a magnetic field;  
5 packaging the component;  
6 sterilizing the component; and  
7 magnetizing the component in the package.

1 21. The process of claim 20 wherein the anastomotic component is  
2 packaged, magnetized and then sterilized.

1 22. The process of claim 21 wherein the component is packaged, sterilized  
2 and then magnetized.

1 23. The process of claim 22 wherein the component is sterilized by gas.

1 24. The process of claim 21 wherein the packaging step comprises  
2 including a plurality of magnetic anastomotic components as part of a kit.

1 25. The process of claim 24 wherein the packaging step further comprises  
2 including at least one delivery device in the kit.

1 26. The process of claim 20 further comprising microblasting or acid-  
2 etching an exterior surface of the component to remove unwanted material, and then coating  
3 the compatible with a layer of biocompatible material prior to the packaging step.

1 27. A process for producing a magnetic anastomotic component suitable  
2 for implantation in a patient's body, the process comprising steps of:  
3 providing an anastomotic component having an ability to produce a magnetic  
4 field, the component having an exterior surface;  
5 placing a layer of material on a first portion of the exterior surface of the  
6 component so as to leave a second portion of the exterior surface of the component uncovered  
7 by the material; and  
8 magnetizing the component.

1 28. The process of claim 27 wherein the material placed on the first portion  
2 of the exterior is paramagnetic.

1 29. The process of claim 28 wherein the second portion of the exterior  
2 surface of the component defines an area of concentrated magnetic flux.

1                   30.     The process of claim 29 further comprising placing a layer of different  
2 material over the exterior surface of the component.

1                   31.     The process of claim 30 wherein the different material has diamagnetic  
2 properties.

1                   32.     The process of claim 29 wherein the second portion of the component  
2 defines a continuous area of concentrated flux.

1                   33.     A process for producing a magnetic anastomotic component suitable  
2 for implantation in a patient's body, the process comprising steps of:  
3                   forming an anastomotic component having a desired configuration from a  
4 material capable of producing a magnetic field, the component having an exterior surface;  
5                   subjecting the component to an acid etching process to remove surface  
6 irregularities; and  
7                   providing the exterior surface of the component with a layer of biocompatible  
8 material.

1                   34.     The process of claim 33 wherein the subjecting step is performed by  
2 placing the component in a solution containing phosphoric acid.

1                   35.     The process of claim 34 wherein the component is placed in the  
2 phosphoric acid solution for an amount of time within the range of from about 5 minutes to  
3 about 15 minutes.

1                   36.     The process of claim 34 further comprising subjecting the solution to  
2 electric potential after the acid etching step

1                   37.     The process of claim 33 further comprising providing at least a portion  
2 of the exterior surface of the component with traction structure for enhancing engagement  
3 between the component and the tissue of a vessel.

1                   38.     The process of claim 37 wherein the traction structure comprises a  
2 surface of the component provided with adhesive.

1                    39.    The process of claim 37 wherein the traction structure comprises a  
2 surface of the component provided with tissue-gripping elements configured to grip the tissue  
3 of a vessel.

1                    40.    The process of claim 37 wherein the traction structure comprises a  
2 surface of the component provided with a tacky coating configured to stick to vessel tissue.